

Borehole

50-07-03Log Event **A****Borehole Information**

Farm : <u>T</u>	Tank : <u>T-107</u>	Site Number : <u>299-W10-149</u>
N-Coord : <u>43,447</u>	W-Coord : <u>75,594</u>	TOC Elevation : <u>673.00</u>
Water Level, ft :	Date Drilled : <u>3/31/1975</u>	

Casing Record**Equipment Information**

Logging System : <u>2</u>	Detector Type : <u>HPGe</u>	Detector Efficiency: <u>35.0 %</u>
Calibration Date : <u>03/1995</u>	Calibration Reference : <u>GJPO-HAN-1</u>	

Logging Information

Log Run Number : <u>1</u>	Log Run Date : <u>4/4/1995</u>	Logging Engineer: <u>Dave Traub</u>
Start Depth, ft.: <u>87.5</u>	Counting Time, sec.: <u>100</u>	L/R : <u>L</u> Shield : <u>N</u>
Finish Depth, ft. : <u>25.0</u>	MSA Interval, ft. : <u>0.5</u>	Log Speed, ft/min.: <u>n/a</u>

Log Run Number : <u>2</u>	Log Run Date : <u>4/5/1995</u>	Logging Engineer: <u>Dave Traub</u>
Start Depth, ft.: <u>24.5</u>	Counting Time, sec.: <u>100</u>	L/R : <u>L</u> Shield : <u>N</u>
Finish Depth, ft. : <u>0.0</u>	MSA Interval, ft. : <u>0.5</u>	Log Speed, ft/min.: <u>n/a</u>

Borehole

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Log Event A

Analysis Information

Analyst : D.C. StromswoldData Processing Reference : Data Analysis Manual Ver. 1Analysis Date : 7/6/1995**Analysis Notes :**

This borehole was double cased in the early 1980's. The outer casing was perforated from 0 to 20 ft and from about 90 to 92 ft. Grout was pumped into the annulus between the casings, and an unknown amount of the grout flowed into the formation through the perforations. This borehole configuration makes it impossible to determine accurate radionuclide concentrations, because the system calibrations do not have a grout correction. In addition, there is an unknown grout thickness from 0 to 20 ft and from 90 to 92 ft. As a result, the reported concentrations can only be considered relative to other concentrations in the borehole.

This borehole was logged in two log runs: run 1 from 87.5 to 25 ft and run 2 from 24.5 to 0 ft with no depth overlap. The pre- and post-survey field verification spectra showed consistent peak activities for both runs, but energy calibrations differed due to gain drift in the instrumentation. Spectra in the middle of both log runs were recalibrated for energy vs. channel.

The total measured casing thickness is 0.4375 in. The casing correction used was that for 0.650 in.

Naturally occurring K-40, U-238, and Th-232 concentrations were calculated and plotted, but they probably do not reflect the stratigraphy due to the attenuations and nuclide content in the grout. U-238 and Th-232 concentrations were very low and not detected in places.

Cs-137 and Co-60 were the only man-made radionuclides detected. Cs-137 occurred from the surface to about 17 ft with the highest concentration of about 4 pCi/g at 9 ft. Co-60 occurred in the interval 42 to 46 ft with a maximum concentration of 0.37 pCi/g. Cs-137 was also detected at low concentrations at discontinuous locations to the bottom of the hole, some of which may be a result of statistical noise.

Log Plot Notes:

Separate log plots show the man-made and the naturally occurring radionuclides. The natural radionuclides can be used for lithology interpretations. The headings of the plots identify the specific gamma rays used to calculate the concentrations. Uncertainty bars on the plots show the statistical uncertainties for the measurements as 95-percent confidence intervals. Open circles on the plots give the MDL. The MDL of a radionuclide represents the lowest concentration at which positive identification of a gamma-ray peak is statistically defensible.

A combination plot includes the man-made and natural radionuclides, the total gamma derived from the spectral data, and the Tank Farms gross gamma log. The gross gamma plot displays the latest available digital data. No attempt has been made to adjust the depths of the gross gamma logs to coincide with the SGLS data.